

**REMARKS/ARGUMENTS**

Claims 1-7, 9-19, 21, 22, and 26-32 were last examined. Claims 23-25 and 34 are withdrawn from consideration. Claims 9, 11, 28 and 32 are canceled herein without prejudice. Claims 1, 19, 26, and 30 are amended herein. No new matter is added by these amendments.

***Objections to the Specification***

The Examiner objects to the abstract as not being drawn to the elected invention. Applicants include herewith an abstract amended in accordance with the Examiner's suggestions. Applicants have also amended the specification to correct typographical errors.

***Rejections Under 35 U.S.C. § 112***

In paragraph 4 claims 1-7, 9-19, 21-22 and 26-32 are rejected under 35 USC 112.

Claim 1, is rejected over the recitation "the measurement, S, is the log of the arithmetic average of the intensities of at least two of the perfect match probes for the SNP" in step (e). The Examiner indicates that it is unclear as to what probe intensities are averaged, the first allele, second allele or both averaged together. Applicants have amended the claim to clarify that the perfect match probes that are averaged can be from either the first or second allele.

The Examiner indicates that the term "average mean" which is recited in claims 1, 19, 30 is unclear because an average is a mean. Applicants have amended claims 1, 19, and 30 by deleting "average" from the term "average mean".

The Examiner indicates that the recitation "the average mean of the normalized S values" which is recited in claims 1, 19 and 26 has insufficient antecedent basis since there is no prior reference to normalized S values for reference samples. Applicants have amended claims 1, 19 and 26 to correct the antecedent basis for the term and to clarify that the S values that are used

for estimating copy number are normalized to the  $S$  values of all other SNPs genotyped in a sample.

Claim 19 is rejected for having insufficient antecedent basis for the limitation “the average mean of normalized  $S$  values”. Applicants have amended the claim to correct the antecedent basis for this limitation.

Claim 19 is rejected for recitation of the term “the normal copy number of the SNP”. The claim has been amended to clarify that the estimated copy number of the SNP is compared to a sample of known copy number at that SNP.

Claim 26 is rejected for containing undefined variables AA and BB. The claim has been amended to clarify that the SNP has two alleles, A and B, and that AA refers to SNPs that are homozygous for the A allele and BB refers to SNPs homozygous for the B allele.

Claim 26 is rejected for recitation of the limitation “the reference sample”. The claim has been amended to clarify that in the second to last step the normalized  $S$  value for the SNP in the experimental sample is compared with the average of the reference sample normalized  $S$  values for the SNP, calculated in the preceding step.

Claim 30 is rejected for reciting the limitation “computer code for inputting a plurality of perfect match intensity values ( $PM_i$ ) for a plurality of SNPs” in lines 2-3. The Examiner indicates that it is unclear if a plurality of values is input for each of a plurality of SNPs or if a plurality of intensity values is input because a plurality of SNPs are measured wherein each SNP can contribute any number of intensity values. Applicants have amended the claim to clarify that a plurality of perfect match intensity values is input for each SNP in each sample so that  $S$  values can be calculated for each SNP in each sample.

Claim 30 is also rejected for the recitation “calculating a log of the mean of the intensity value for each individual SNP in all reference samples” in lines 8-9. The Examiner indicates that it is unclear what set of numbers the log of the mean is calculated over. Applicants have

amended the claim to clarify that the value that is calculated is the mean of the *S* values for a given SNP in a plurality of reference samples of matched genotype at that SNP.

Claim 30 is also rejected over the recitation “calculating a log intensity difference between the log mean intensity of a SNP from an experimental sample and the log mean intensity of that SNP from reference samples” in lines 10-23. The Examiner indicates that it is unclear if this calculation occurs separately between log mean intensities calculated for the experimental sample and each of the reference samples or if there is a single calculation between the log mean intensity of the experimental sample and a log mean intensity calculated over all of the reference samples. Applicants have amended the claim to clarify that what is calculated is the difference between the log mean intensity of a SNP from an experimental sample and the average log mean intensity for that SNP from a plurality of reference samples matched in genotype at that SNP to the experimental sample.

Claim 30 is also rejected over the recitation “the normal copy number”. Applicants have amended the claim to clarify that the estimated copy number for a SNP is compared to the copy number of the SNP in a normal reference sample.

### **CONCLUSION**

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 408 731-5786.

Except for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No.01-0431. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

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Respectfully submitted,

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